

AMENDMENTS TO THE CLAIMS

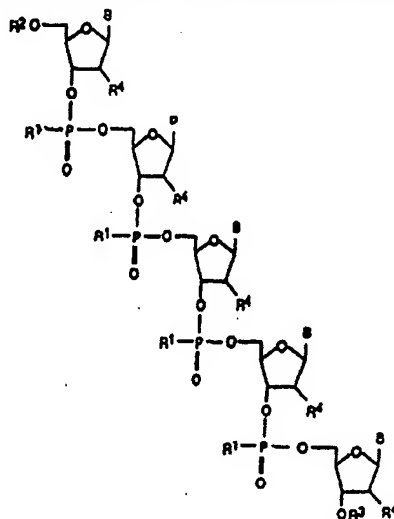
This listing of claims will replace all prior listings.

1. (PREVIOUSLY PRESENTED) An antisense oligonucleotide selected from the group consisting of the sequence 5' -TTG CAT AAA CCC AAG GAG -3' (SEQ ID NO: 1) and modifications thereof, and fragments consisting of subsequences of SEQ ID NO: 1 of at least 8 nucleotides and modifications thereof.

2. (PREVIOUSLY PRESENTED) The antisense-oligonucleotide according to claim 1 wherein the modification comprises a modified sugar moiety, a modified base, a modified internucleotide linkage, coupling the oligonucleotide to an enhancer of uptake and/or inhibitory activity, and combinations thereof.

3. (PREVIOUSLY PRESENTED) The antisense-oligonucleotide according to claim 2 wherein the antisense-oligonucleotide is a phosphorothioate oligodeoxynucleotide.

4. (PREVIOUSLY PRESENTED) The antisense-oligonucleotide according to claim 1 with the structure:



wherein

B = the bases A, C, G or T in oligodeoxy-ribonucleotides or the bases A, C, G or U in oligo-ribonucleotides;

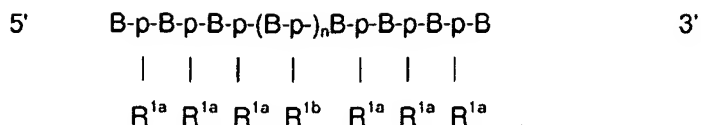
R¹ = OM⁺ (M⁺ = Na⁺ or H⁺), SM⁺ (M⁺ = Na⁺ or H⁺), CH₃, C₂H₅, OCH₃, or C₂H₅; R² and/or

R³ are covalently coupled cholesterol, poly(L)lysine, transferrin or H;

R⁴ = H, F, CH₃, C₂H₅, OH, OCH₃, or OC₂H₅;

wherein the structure is a representation of a longer nucleotide chain.

5. (PREVIOUSLY PRESENTED) The antisense-oligonucleotide according to claim 1 with the formula



wherein

B = the bases A, C, G or T in oligodeoxy-ribonucleotides, or the bases A, C, G or U in oligo-ribonucleotides;

p = internucleotide phosphate;

(B-P)_n = an oligodeoxy-ribonucleotide or oligo-ribonucleotide stretch wherein n =1-12;

and wherein R1, encompassing R^{1a} or R^{1b}, is varied at the internucleotide phosphates within one oligonucleotide wherein

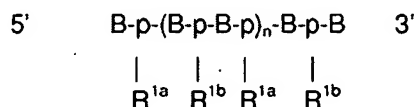
R^{1a} = S⁻M⁺, wherein all M⁺ is Na⁺ or H⁺ and R^{1b} = O⁻M⁺, wherein all M⁺ is Na⁺ or H⁺; or

R^{1a} = CH₃ and R^{1b} = O⁻M⁺, wherein all M⁺ is Na⁺ or H⁺; or

R^{1a} = S⁻M⁺, wherein all M⁺ is Na⁺ or H⁺ and R^{1b} = CH₃; or

R^{1a} = CH₃ and R^{1b} = S⁻M⁺, wherein all M⁺ is Na⁺ or H⁺.

6. (PREVIOUSLY PRESENTED CURRENTLY AMENDED) The antisense-oligonucleotide according to claim 1 with the formula



wherein

B = one of the bases A, C, G or T in oligodeoxy-ribonucleotides or one of the bases A, C, G or U in oligo-ribonucleotides depending on a gene sequence;

p = internucleotide phosphate;

(~~B-p-B-p~~)_n (B-p-B-p)_n = an oligodeoxy-ribonucleotide or oligo-ribonucleotide stretch wherein n = 2 -8; and wherein R1 is alternated at the internucleotide phosphates within one oligonucleotide wherein

R^{1a} = S⁻M⁺, wherein all M⁺ is Na⁺ or H⁺ and R^{1b} = O⁻M⁺, wherein all M⁺ is Na⁺ or H⁺; or

R^{1a} = CH₃ and R^{1b} = O⁻M⁺, wherein all M⁺ is Na⁺ or H⁺; or

R^{1a} = S⁻M⁺, wherein all M⁺ is Na⁺ or H⁺ and R^{1b} = CH₃.

7. (WITHDRAWN) A method comprising providing the antisense oligonucleotide of claim 1, whereby the antisense oligonucleotide results in at least one of the inhibition of expression and/or functional activity of melanoma inhibitory activity (MIA), reducing invasion and/or metastasis, or stimulating immune cells and/or the immune system.

8. (PREVIOUSLY PRESENTED) A pharmaceutical composition comprising an antisense-oligonucleotide according to claim 1.

9. (PREVIOUSLY PRESENTED) The pharmaceutical composition according to claim 8 wherein the antisense-oligonucleotide is integrated into a DNA delivery system comprising viral and/or non-viral vectors together with lipid acids or derivatives thereof selected from the group consisting of anionic lipids, cationic lipids, non-cationic lipids, and mixtures thereof.
10. (PREVIOUSLY PRESENTED) The pharmaceutical composition according to claim 8 further comprising an immunostimulatory agent.
11. (PREVIOUSLY PRESENTED) The pharmaceutical composition according to claim 10 wherein the immunostimulatory agent is selected from the group consisting of cytokines, inhibitors of expression and/or function of interleukin-10, inhibitors of expression and/or function of transforming growth factor beta (TGF- β), inhibitors of expression and/or function of Prostaglandin B2, inhibitors of expression and/or function of receptors for Prostaglandin E2, inhibitors of VEGF, and combinations thereof.
12. (WITHDRAWN – PREVIOUSLY PRESENTED) A method comprising providing the pharmaceutical composition according to claim 8 in a method for the treatment of at least one of neoplasms, infections, or immunosuppressive disorders.
13. (WITHDRAWN – PREVIOUSLY PRESENTED) A method comprising providing the pharmaceutical composition according to claim 8 for the treatment of at least one disorder, neoplasm, infection, or immunosuppressive disorder wherein abnormal expression of melanoma inhibitory activity plays a role in the disorder, neoplasm, infection, or immunosuppressive disorder.
14. (WITHDRAWN) A method comprising providing the pharmaceutical composition according to claim 8 for the treatment of neoplasms and/or disorders selected from the group consisting of melanoma, gastrointestinal carcinoma, breast cancer, pancreatic cancer, ovarian carcinoma, chondrosarcoma, spinal diseases, cervical myelopathy, lumbar canal stenosis, lumbar disc herniation, rheumatoid arthritis, osteoarthritis, HLA-27-associated oligoarthritis, psoriatic arthritis, rheumatic arthritis, cartilage damage, joint destruction, and combinations thereof.
15. (PREVIOUSLY PRESENTED) A diagnostic composition comprising an antisense-oligonucleotide according to either claim 1 or claim 2.
16. (PREVIOUSLY PRESENTED) The antisense oligonucleotide of claim 5 wherein $(B-p)_n$ = an oligodeoxy-ribonucleotide or oligo-ribonucleotide stretch wherein $n = 1 - 11$.
17. (PREVIOUSLY PRESENTED) The antisense oligonucleotide of claim 6 wherein $(B-p-B-p)_n$ = an oligodeoxy-ribonucleotide or oligo-ribonucleotide stretch wherein $n = 3 - 7$.